

I CLAIM[S]:

1. A control methodology for regulating the power input and output of [a] inertial energy storage devices, [such as a] including but not limited to flywheels, [The] such control methodology utilizing[es] a continuously variable transmission [ (CVT) ] and comprising[es] control of the CVT speed ratio based on feedback of the CVT output force or torque.

2. A control methodology for regulating the power input and output of [a] inertial energy storage devices, [such as a], including but not limited to flywheels, as in Claim 1, in which the CVT ratio is equal to the time integral of an error signal derived from operator input and feedback of a signal proportional to CVT output torque.

3. A control methodology for regulating the power input and output of [a] inertial energy storage devices, [such as a] including but not limited to flywheels, as in Claim 1, in which the CVT ratio is equal to a ratio - measured speed of the machinery divided by measured speed of the inertial energy storage device - plus an error signal derived from operator input and feedback of a signal proportional to CVT output torque.

4. A wheeled vehicle which includes a flywheel for energy storage and a continuously variable transmission (CVT) coupled in series to at least one wheel of the vehicle and incorporating control of the CVT speed ratio based on feedback of CVT output torque.

5. A wheeled vehicle according to claim 4 wherein a fixed ratio speed reducer is coupled in series between the flywheel and the continuously variable transmission (CVT), and of a fixed ratio such that the flywheel and CVT operate within the specified design speed ranges for the flywheel and CVT respectively.

6. A wheeled vehicle according to claim 4 wherein a clutch with corresponding clutch actuation means is coupled in series with the flywheel, the continuously variable transmission (CVT) and the driven wheel(s) of said vehicle, said clutch actuation means controlled by either manual or automatic action to completely disengage said CVT from said driven wheel(s) when said wheeled vehicle is either at rest or the desired speed is lower than the speed corresponding to the lowest CVT ratio.

7. A wheeled vehicle according to claim 4 wherein a prime mover is coupled to the flywheel and is controlled to increase the rotational speed of the flywheel up the maximum design rotational speed of said flywheel.

cls 4-7  
OK for  
180/337  
9/15/02  
H